

CLAIMS

1. A compact disc carrying at least a first session including a table of contents and a program area containing at least one track, the table of contents indicating a start position (ATOC) of said track, and the program area including a subchannel (P; CTRL; IDX; PTIME); characterised in that
 - a. said track includes, at said indicated start position (ATOC), a data portion (ED) containing unrecoverable data;
 - b. the subchannel (P; CTRL; IDX; PTIME) indicates a payload start position (AP) subsequent to the data portion (ED); and
 - c. said track includes a recoverable payload (PD) at the payload start position (AP).
2. The compact disc of claim 1, wherein the data portion (ED) includes a pointer (EDP) to a player program.
3. The compact disc of claim 2, wherein the pointer (EDP) indicates a position at which the player program is recorded on the compact disc.
4. The compact disc of claim 2 or claim 3, including a subsequent session containing encrypted data which can be decrypted by the player program.
5. A method of manufacturing a compact disc, comprising formatting source data to create a first session including a table of contents and a program area containing at least one track, the table of contents indicating a start position (ATOC) of said track, and the program area including a subchannel (P; CTRL; IDX; PTIME); and recording the formatted source data on the compact disc; characterised in that
 - a. said track includes, at said indicated start position (ATOC), a data portion (ED) containing unrecoverable data;
 - b. the subchannel (P; CTRL; IDX; PTIME) indicates a payload start position (AP) subsequent to the data portion (ED); and
 - c. said track includes a recoverable payload (PD) at the payload start position (AP).
6. The method of claim 5, wherein the data portion (ED) includes a pointer (EDP) to a player program.

7. The method of claim 6, including recording a player program at a position on the compact disc indicated by the pointer (EDP).
8. The method of claim 6 or 7, including recording on the compact disc a subsequent session containing encrypted data which can be decrypted by the player program.
- 5 9. The method of any one of claims 5 to 8, wherein the compact disc is a compact disc master (M).
- 10 10. The method of claim 9, including manufacturing one or more playable compact discs directly or indirectly from the compact disc master.
11. A removable disc carrying encrypted data recorded as segments located in corresponding sectors having sector addresses on the disc; characterised in that each segment is encrypted with a corresponding key determined by the respective sector address.
12. The disc of claim 11, wherein the corresponding key is related by an algorithm to the respective sector address.
- 15 13. The disc of claim 11 or 12, wherein the respective sector address is a logical block address of the start of the respective sector.
14. The disc of claim 12 or 13, carrying a player program, incorporating said algorithm, for decrypting the encrypted data.
- 20 15. A method of recording data on a disc, comprising dividing the data into segments and allocating each segment to a corresponding sector having a sector address on the disc; characterised by encrypting each segment with a corresponding key determined by the respective sector address, and recording each encrypted segment in the corresponding sector of the disc.
- 25 16. The method of claim 15, wherein the corresponding key is related by an algorithm to the respective sector address.
17. The method of claim 15 or 16, wherein the respective sector address is a logical block address of the start of the respective sector.
18. The method of any one of claims 15 to 17, including recording on the disc a player program, incorporating said algorithm, for decrypting the encrypted data.
- 30 19. The method of claim 18, wherein the segments are recorded in a sequence and the player program further incorporates the sector address of a first one of the segments in the sequence.

20. The method of any one of claims 15 to 19, wherein said disc is a disc master, the method further comprising manufacturing one or more removable discs directly or indirectly from the disc master.
21. A method of decrypting data recorded as encrypted segments in corresponding sectors having a sector address on a disc, comprising, for each encrypted segment:
- a. determining the sector address corresponding to that segment;
 - b. deriving a decryption key from the sector address; and
 - c. decrypting the encrypted segment using the decryption key.
22. The method of claim 21, wherein the decryption key is determined from the sector address by an algorithm common to each encrypted segment.
23. The method of claim 21 or 22, wherein the respective sector address is a logical block address of the start of the respective sector of that segment.
24. A computer program incorporating program steps for performing the method of any of claims 21 to 23.
25. The computer program of claim 24, recorded on said disc.
26. A method of restricting access to data on a compact disc in a compact disc drive connected to a computer, comprising:
- a. intercepting a command to be sent by an application running on the computer to the compact disc drive,
 - b. determining whether the command is a command to read the data and the application is an unauthorised application, and
 - c. if so, preventing the data from being read.
27. The method of claim 26, wherein step c includes blocking the transmission of the command to the compact disc drive.
28. The method of claim 26 or 27, wherein step c includes generating a command response, not initiated by the compact disc drive, and sending the command response to the application so as to cause the application to fail to read the data.
29. A method of restricting access to data on a compact disc in a compact disc drive connected to a computer, comprising:
- a. intercepting a reading operation by an application in which the data is read by the compact disc drive;

- b. determining whether the reading operation meets a predetermined criterion indicating unauthorised access to the data; and
- c. if so, preventing the data from being read by the application.

- 5 30. The method of claim 29, wherein the data comprises protected data in a first area of the compact disc and unprotected data in a second area of the disc, and step b includes determining whether the data is being read from the first area.
31. The method of claim 29, wherein the data comprises uncompressed data and compressed data, and step b includes determining whether the average speed of the reading operation exceeds a predetermined threshold.
- 10 32. The method of any one of claims 26 to 31, wherein step a is performed by inserting an interception program within a driver chain between the application and the compact disc drive.
33. A computer program including program steps for performing the method of any one of claims 26 to 32.
- 15 34. The computer program of claim 33, recorded on the compact disc such that it is executed by the computer when the compact disc is mounted in the compact disc drive.
35. A compact disc carrying the computer program of claim 33 or 34.